Claims

[c1] A method for bending a preformed thermoplastic polymer extrusion comprising at least one cavity to make a curved polymer extrusion, the method comprising:

filling at least one said cavity with polymer foam formed within said cavity;

curing said polymer foam within said at least one cavity;

heating said extrusion to a first temperature;

bending said heated extrusion on a curved mandrill;

cooling said extrusion to a second temperature on said mandrill to make a curved polymer extrusion; and

removing said cooled curved polymer extrusion from said mandrill.

[c2] The method of claim 1 wherein said polymer foam is polyisocyanate-based.

[c3] The method of claim 2 wherein said polymer foam is polyurethane foam.

[c4] The method of claim 3 wherein said polyurethane foam is rigid closed-cell foam, semi-rigid closed-cell/open-cell foam and flexible open-cell foam.

[c5] The method of claim 1 wherein said first temperature is the heat deflection temperature of the preformed polymer extrusion.

[c6] The method of claim 1 wherein said second temperature is at least about 10 degrees Celsius less than the heat deflection temperature of the preformed polymer extrusion.

[c7] The method of claim 1 wherein said polymer foam has a density of about 16 kg per cubic meter to about 320 kg per cubic meter.

[c8] The method of claim 1 wherein said extrusion is heated to said first temperature in a glycol bath.

[c9] The method of claim 1 wherein said extrusion is heated to said first temperature by infrared radiation.

[c10] The method of claim 1 wherein said extrusion is heated to said first temperature by heated air.

[c11] The method of claim 1 wherein said preformed extrusion comprises a vinyl polymer.

[c12] The method of claim 1 wherein each said cavity is filled with foam by injection from a mixing head of a plurality of ingredients comprising polyisocyanate, at least one active hydrogen-containing compound, and a blowing agent.

[c13] The method of claim 1 wherein each said cavity is filled with foam by hand pouring into each said cavity a plurality of ingredients comprising polyisocyanate, at least one active hydrogen-containing compound, and a blowing agent.

[c14] A method for bending a preformed vinyl extrusion comprising at least one cavity to make a curved vinyl extrusion, the method comprising:

filling at least one said cavity with polyurethane foam formed within said cavity;

curing said polyurethane foam within said at least one cavity;

heating said extrusion to about 70 degrees Celsius;

bending said heated extrusion on a curved mandrill;

cooling said extrusion to a temperature less than about 60 degrees Celsius on said mandrill to make a curved polymer extrusion; and

removing said cooled curved polymer extrusion from said mandrill.

[c15] The method of claim 14 wherein said extrusion is heated by immersion in a glycol bath maintained at about 70 degrees Celsius.

[c16] The method of claim 14 wherein said extrusion is heated by infrared radiation.

[c17] The method of claim 16 wherein said cured polyurethane foam has a density of about 320 kg per cubic meter.

[c18] A window frame comprising a curved polymer extrusion made by the method of claim 14.

[c19] A window comprising the window frame of claim 18.

[c20] The window of claim 19 wherein said polyurethane foam is rigid closed-cell

foam, semi-rigid closed-cell/open-cell foam and flexible open-cell foam.